

OLYMPIC COAST NATIONAL MARINE SANCTUARY

A REPORT FOR SANCTUARY ADVISORY COUNCIL MEMBERS

REPORTING PERIOD: MAR 16, 2013 – MAY 16, 2013

ABOUT THE SANCTUARY

Olympic Coast National Marine Sanctuary spans 3,189 square miles of marine waters off the rugged Olympic Peninsula coastline. The sanctuary extends 25 to 50 miles seaward, covering much of the continental shelf and several major submarine canyons.

The sanctuary protects a productive upwelling zone - home to rich marine mammal and seabird faunas, diverse populations of kelp and intertidal algae, and thriving invertebrate communities. The sanctuary is also rich in cultural resources, with over 150 documented historical shipwrecks and the vibrant contemporary cultures of Makah, Quileute, and Hoh Indian Tribes, and Quinault Nation.

OFFICE REPORT

OLYMPIC COAST NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

Organized by Olympic Coast National Marine Sanctuary (OCNMS or sanctuary) management plan priority areas

TREATY TRUST RESPONSIBILITIES

Quinault Nation Hosts Intergovernmental Policy Council Meeting

On March 20, 2013, an Olympic Coast Intergovernmental Policy Council meeting was hosted by the Quinault Nation. Agenda topics included the OCNMS Superintendent's Report, and update on scientific research and monitoring plans for 2013, follow-up from the joint IPC/SAC Meeting in November regarding an IPC/SAC Ocean Acidification Working Group (progress of group and expected outcomes), a discussion of EFH proposals for the PFMC's EFH review, and a brief discussion on how to better facilitate the NOAA Grants process.

IPC Sends Letter of Support for OCNMS Moorings Program

On April 2, 2013, the Olympic Coast Intergovernmental Policy Council submitted a letter to the West Coast Regional Director of the Office of National Marine Sanctuaries. The letter was written to express "support for the OCNMS seasonal oceanographic mooring program and to request that West Coast Region's continued financial support of this program." The letter went on to say that the funding the West Coast Region provides to support the mooring program is a "priority that we all share" and that the IPC hopes that we can continue to count on the full support of the West Coast Region to keep this program in place.

ACHIEVE EFFECTIVE AND COORDINATED MANAGEMENT

Olympic Coast Whale Trail Sign Brings People Together To Celebrate Partnerships, Ocean Awareness and Stewardship

The first Whale Trail sign along Olympic Coast National Marine Sanctuary was dedicated at Kalaloch Lodge in Olympic National Park on Thursday, April 11, representing a partnership with Olympic Coast National Marine Sanctuary, Olympic National Park and The Whale Trail. The ceremony, attended by approximately 30 people, featured a keynote address by Jefferson County Commissioner Phil Johnson, and representatives from Olympic Coast National Marine Sanctuary, Olympic National Park, The Whale Trail and Queets Tribe. The Whale Trail is a series of sites around the Northwest where the public may view marine mammals from shore. The Whale Trail mission is to inspire appreciation and stewardship of whales and our marine environment by establishing

a network of viewing sites along the whales' migration routes through the coastal waters of the Pacific Northwest. The Whale Trail has also identified whale-viewing sites at La Push (Quileute Nation) and Cape Flattery (Makah Nation) and dozens of other sites on the Olympic Peninsula and in Puget Sound, <http://thewhaletrail.org/sites>. Through its current signs alone, including two on every Washington State ferry, The Whale Trail reaches more than 22 million people each year.



Collaborative GIS Team Designs Olympic Coast NMS Draft Oil Spill Response Tool

GIS analysts from Olympic Coast and Gulf of the Farallones national marine sanctuaries worked collaboratively to produce a comprehensive Oil Spill Response tool for OCNMS that includes core field and office operations, response plan guidelines for large and small incidents, staffing and role descriptions during emergencies, pre-spill training requirements, emergency and environmental web links, and a layered PDF map package that includes relevant spatial data for first responders and incident command personnel. The design of the Oil Spill Response tool was based on a similar product created by Gulf of the Farallones NMS after the Cosco Busan oil spill of 2007 in the San Francisco Bay.

OCNMS Volunteers of the Year Recognized

Roy Morris and Nancy Messmer were nominated as Volunteers of the Year for their involvement together and separately in several activities supporting Olympic Coast National Marine Sanctuary. Roy has served on Olympic Coast National Marine Sanctuary Advisory Council since 2007 in the Citizen-at-Large seat. In addition, Roy serves on the National Marine Fisheries Service's Lake Ozette Sockeye Recovery Team and has assisted with OCNMS educational programming that brings regional school district youth, primarily tribal youth, to the watershed to study recovery planning and hear tales from tribal elders. Roy also serves on the North Pacific Coast Marine Resources Committee, a state-sponsored, community-based group that engages local residents in marine conservation and provides grant funding for research projects and educational programs focused on the outer Washington coast. Roy and Nancy, as representatives of the Clallam Bay Lions Club International, were founding members of CoastSavers, the grassroots group that organizes the largest beach cleanup effort in Washington State. Nancy has served as facilitator of CoastSavers annual strategic planning meetings, and she has been lead at the Ozette registration station each year. In addition, Nancy is a major contributor to citizen science work facilitated by OCNMS. She conducts monthly COASST (Coastal Observation and Seabird Survey Team) activities at two local beaches and also collects shoreline debris monitoring for OCNMS at these beaches. Nancy and Roy are community leaders who bring a voice of authenticity and legitimacy to conservation issues that are often controversial. Through their "boots on the ground" efforts, they help OCNMS work within communities that are often very distrustful of a federal agency.

OCNMS Submits Hydrographic Field Examination for Charting

Olympic Coast National Marine Sanctuary, in partnership with the NOAA Marine Debris Program, Washington State and Olympic National Park responded to the grounding of a large dock that originated from the Japan Tsunami and washed up on a pristine beach in the sanctuary and National Park Wilderness area. In preparation for potential salvage efforts the OCNMS R/V TATOOSH conducted a hydrographic field examination to chart a safe approach from sea. The Pacific Hydrographic Branch (PHB) assisted this effort by promptly producing charting products for use by response managers and salvors. In addition to providing data for response the data will be utilized for habitat mapping of the nearshore area of the Washington coast and provided to Coast Survey for inclusion with other data to update the nautical charts.

CONDUCT COLLABORATIVE RESEARCH, ASSESSMENTS AND MONITORING TO INFORM ECOSYSTEM-BASED MANAGEMENT

Washington State Marine Spatial Planning Efforts

Sanctuary staff have been supporting Washington State Marine Spatial Planning efforts by providing data and actively participating in the State's MSP planning process. OCNMS staff recently attended two related workshops. The first was Washington Coast Marine Spatial Planning Workshop that is working on the drafting of the goal, boundary and objectives for the Washington coast. This was the first in a series of three workshops being held in Aberdeen, Washington. The second workshop was in support of the development of a Pacific Regional Ocean Uses Atlas. This work is jointly sponsored by the Bureau of Energy Management (BOEM), NOAA's Marine Protection Area Center, and Washington State.

IMPROVE OCEAN LITERACY

Beach Captains Trained for Washington Coast Cleanup

Olympic Coast National Marine Sanctuary (OCNMS) in coordination with Olympic National Park conducted Washington Coast Cleanup Beach Captain Training for fifteen Clallam County AmeriCorps members and two site coordinators. Beach Captains assisted with the cleanup event on April 20, 2013, providing direction, general information, encouraging trash removal, and serving as point of contact at beach locations. For the years 2000-2012, a total of 10,729 volunteers collected about 320 tons of marine trash.

OCNMS works to improve Voluntary Compliance of Overflight Regulation

Updated information has been completed to inform pilots on recent changes to sanctuary regulations and the agreement of the FAA to publish the regulation on their Aeronautical charts. A new overflight poster was drafted, reviewed by partners, posted on an updated OCNMS overflight page. OCNMS also staffed a booth at the 30th Northwest Aviation Conference and Trade Show. This event is advertised as the Northwest's premier aviation event with over 12,000 aviation enthusiasts attending, over 80% of which are pilots. Staff had the opportunity to talk to many Washington pilots about the reasons for the regulation, as a method to protect wildlife, and to answer specific questions about the sanctuary and the regulation. A full page ad of the poster was published in the conference's program. A copy of the flyer can be downloaded at http://olympiccoast.noaa.gov/protect/wildlifedisturbance/overflight_flyer_2013.pdf.

Sea Otter Weekend at the Seattle Aquarium

Research Coordinator Ed Bowlby was asked to be the expert guest scientist for The Seattle Aquarium's Marine Mammal Mania weekend event featuring sea otters. He produced a display panel highlighting how Olympic Coast National Marine Sanctuary, working with federal, state and tribal staff supports conservation and research related to sea otters and nearshore ecosystems to: 1) reduce risks to catastrophic oil spills via its Area To Be Avoided; 2) minimize wildlife disturbance from low-flying aircraft via its restricted ceiling zone; 3) assist with annual sea otter census and year-round stranding response; 4) ensure continuation of annual canopy kelp mapping; and 5) public outreach and education. He also fielded questions from visitors during the scheduled sea otter feeding, discussing natural history aspects of wild Washington sea otters in comparison to the captive sea otters.

Olympic Coast National Marine Sanctuary Represented at Shorebird Festival

Over 1,100 visitors attended Grays Harbor Shorebird Festival April 26-28 in Hoquiam. Each spring, hundreds of thousands of shorebirds stop to rest and feed in Grays Harbor estuary on their migration northward. This concentration of birds offers people a great chance to view a number of shorebird species. The festival offered a series of speakers, guided tours through national wildlife refuges and local viewing areas, and an exhibitors' hall where Olympic Coast National Marine Sanctuary hosted an informational booth.

Port Townsend Marine Science Center Visits Sanctuary

Port Townsend Marine Science Center staff and volunteers toured the Olympic Coast Discovery Center Tuesday, April 23rd. Participants were interested in learning about Olympic Coast National Marine Sanctuary and in particular its marine debris education programs and volunteer opportunities.

CONSERVE NATURAL RESOURCES IN THE SANCTUARY

CoastSavers Shoreline Cleanup a Huge Success

The annual Earth Day shoreline cleanup on April 20 coordinated by CoastSavers and focused on the outer coast of Washington, including shores of Olympic Coast National Marine Sanctuary, was a resounding success. Over 1,000 volunteers participated in efforts to collect and haul an estimated 15 tons of debris from the coastal beaches. The sanctuary is a founding member of CoastSavers and contributes significantly to the organization's long range planning, funding and event coordination. Sanctuary staff led by Jacqueline Laverdure hosted the registration station at Hobuck Beach on the Makah Reservation through which over 150 volunteers were mobilized for the cleanup. Liam Antrim coordinated a team of volunteers, including 8 recruits from the Neah Bay U.S. Coast Guard station, to access a small, remote cove on the Makah Reservation rarely visited by humans. This cove is where Ikkatsu Project (<http://ikkatsuproject.org/>) kayakers found the highest deposits of debris on the outer coast of Washington in 2012. Ikkatsu Project leaders joined the sanctuary team and Coast Guard to haul hundreds of pounds of debris, mostly plastic bottles, foam and fishing floats, up the steep bluff and two miles down the trail to the road and dumpster.



Climate Change Impacts Report for Olympic Coast National Marine Sanctuary Published

NOAA's Olympic Coast National Marine Sanctuary has released a climate change impacts report entitled "Climate Change and the Olympic Coast National Marine Sanctuary: Interpreting Potential Futures". The report is an initial accomplishment under planned sanctuary climate change action plans, and provides a strong foundation of information for further actions and adaptations in the region. Existing observations and science-based projections were used to identify an extensive suite of

potential climate change impacts to habitats, plants, and animals within the sanctuary and adjacent coastal areas. Key issues identified include projected extreme weather events (winds, waves, storms) and resultant coastal erosion, an increase in ocean acidity and water temperature, and more extreme weather patterns, including Pacific Northwest regional rainfall increases triggering 100-year magnitude floods. Prepared and edited by Washington Sea Grant, sanctuary staff and 13 contributing authors, the new climate report is the outcome of more than a year of intensive collaboration among subject matter experts representing 27 agencies, organizations, and academic institutions. The report includes recommendations for future action for sanctuary management, including focus on public education, information gathering, policy and management strategies. Scientists, educators, public relations specialists, and natural resource managers will continue to work together to outline regional next steps forward. The Climate Change Impacts Report is available at: http://sanctuaries.noaa.gov/science/conservation/cc_ocnms.html

Removal of Japanese Dock on Olympic Coast Completed



A 185-ton dock that washed out to sea during the March 2011 tsunami in Japan has now been removed from Washington's Olympic Coast as crews from *The Undersea Company* of Port Townsend, Wash., removed the last of the dock's concrete and plastic foam from the beach and the inland landing site. NOAA contracted with *The Undersea Company* earlier this month to remove the dock from the remote wilderness coast in Olympic Coast National Marine Sanctuary and Olympic National Park and work began on March 17. The challenging operation involved opening up a 185-ton concrete package filled with styrofoam while standing near a helicopter on an extremely remote coastline. The removal effort was supported by many state and federal

agencies. Washington's Marine Debris Task Force provided support for the initial response in December 2012, inspected the dock for non-native species, and continued to provide information on their website. The U.S. Coast Guard initially located the dock after it was reported by a mariner. The U.S. Fish and Wildlife Service also supported the effort's planning and preparation, and NOAA's National Weather Service provided spot forecasts for the area, ensuring that the contractors and agency staff were using reliable weather information during the removal work.

To ensure contractor and visitor safety, the coastal area of Olympic National Park between Goodman Creek and Jefferson Cove was closed to all public entry but was reopened upon project completion. The cost for the \$628,000 removal effort was paid by NOAA's Office of National Marine Sanctuaries and the Olympic National Park, and with funds provided to NOAA from the government of Japan to help with cleanup of marine debris from the tsunami. The safe and successful removal involved significant collaboration, problem-solving and respect.

International Marine Organization Vessel Routing Measure Protects OCNMS

The International Maritime Organization (IMO) designated an Area to be Avoided (ATBA) off the coast of Washington in 1995 to reduce the risk of marine casualties including oil spills, and the resulting environmental damage to Olympic Coast National Marine Sanctuary (OCNMS), designated in 1994. Certain vessels are advised to transit outside of this ATBA. OCNMS, in cooperation with the U.S. and Canadian coast guards, monitors vessel compliance under this voluntary program. Since 2004 OCNMS has reported estimated ATBA compliance rates. These reports can be viewed at <http://olympiccoast.noaa.gov/protect/incidentresponse/vesseltraffic.html>. In late 2012, OCNMS made changes to the data source and process for monitoring vessels traveling through the nearby, offshore Area To Be Avoided (ATBA). OCNMS, in cooperation with the U.S. and Canadian coast guards, monitors vessel compliance under this voluntary program. In 2012 the sanctuary changed data sources and now uses data from vessels' Automatic Identification System transceivers received by satellite (S-AIS), allowing for broader spatial coverage with the entire sanctuary now being covered. The sanctuary also reduced the tonnage requirements for vessels traveling through the ATBA. These changes are expected to bring variation in compliance reporting.

Pacific Groundfish Essential Fish Habitat Process

Research Coordinator Ed Bowlby represented the west coast national marine sanctuaries at an April 7 meeting of the Pacific Groundfish Essential Fish Habitat Review Committee (EFHRC), discussing updates to scientific analyses from information gathered in their Phase I Report. This is part of the mandated 5-year review process for west coast groundfish EFH, first designated in 2006. The EFHRC is an advisory committee to the Pacific Fishery Management Council, representing multiple stakeholders (e.g., fishing groups, agencies, tribes and conservation groups). The following day the Council reviewed recommendations from the EFHRC and other committees and agreed to continue the EFH review process. A Request for

Proposals to modify or add groundfish EFH areas was announced on the Council's web site on May 4 with a deadline of July 31. For more information, see <http://www.pcouncil.org/2013/05/25450/rfp-gf-efh-may2013/>.

Sanctuary meets with Enforcement Advisors

Deputy Superintendent George Galasso met with the OCNMS Enforcement Technical Advisory Committee to discuss sanctuary enforcement issues. The TAC is facilitated by NOAA Office of Law Enforcement's Dayna Matthews, meets twice a year, and consists of NOAA OLE, the U. S. Coast Guard, and Washington Department of Fish and Wildlife.

SANCTUARY PERMITTING

Issued Permits and Approvals

MULTI-2013-002 – Ms. Laura Jurgens – UC Davis Bodega Marine Lab

Project Title: Understanding how regional climate and foundation species interact to affect temperature extremes within biological habitats

Permitted Activity: gather temperature time series measurements in mussel beds, algal turfs and on adjacent bare rock surfaces over a five month period at each site using small temperature loggers affixed to substrate with non-toxic marine epoxy. To account for variation within treatments, four replicate loggers will be deployed in each microhabitat for a total of 20 loggers per site. Because this study includes additional sites in Channel Islands NMS, this was issued as a multi-sanctuary permit

Project Location: TAYLOR POINT 47°51'58.0" 124°34'07.8"
POINT OF ARCHES 48°14'51.1" 124°42'05.6"

Permit Duration: June to October, 2013

OCNMS-2013-001 – Ms. Harriet Huber – National Marine Fisheries Service

Project Title: Distribution and Abundance of Pinnipeds and Sea Otters in Washington State

Permitted Activity: This permit applies to surveys by led by WDFW, NMFS, and the Makah Tribe for low altitude flights at no lower than 600 feet above ground/water level altitude in fixed wing aircraft in the overflight restricted zone within OCNMS to census and track pinniped and sea otter population: sea otters – in July, 5 flights/year; pinnipeds – in June, 4 flights/month; pinnipeds – in July-May, 3 flights/month

Project Location: marine waters above OCNMS from Copalis River to Cape Flattery and Koitlah Point in the Strait of Juan de Fuca

Permit Duration: A five-year period May 2013 to May 2018

MULTI-2013-004 – Dr. John Stein – National Marine Fisheries Service

Project Title: Pacific Hake Acoustic Integrated Trawl Surveys and Research, Groundfish Bottom Trawl Surveys, Hook and Line Rockfish Surveys of the Southern California Bight

Permitted Activity: seabed alteration within West Coast national marine sanctuaries for the purpose of groundfish trawl survey, hake acoustic survey groundtruth trawls, and hook and line sampling; take within marine reserves within CINMS by hook and line sampling only

Project Location: throughout West Coast national marine sanctuaries

Permit Duration: one year beginning May 6, 2013

Pending Permit Requests

OCNMS-2013-002 – Ms. Catherine McLean – Consortium for Ocean Leadership , OSU

Project Title: Ocean Observatories Initiative (OOI)

Permitted Activity: Install and service a surface buoy and co-located vertical profiling mooring containing scientific instrumentation within the sanctuary. The mooring site will be continually occupied by this OOI infrastructure for 25-30 years, - we plan to apply for future OCNMS permits prior to the expiration of existing permits. Data from the buoy/mooring will be made available in near real-time to OCNMS personnel and any other interested parties through an OOI web site.

Project Location: nominally 47.133° N, 124.286° W, located 500 meters inside the OCNMS boundary

Permit Duration: A five-year period commencing in 2014 (at which time additional permits will be requested)

OCNMS-2013-003 – Dr. Daniel Roby, OSU

Project Title: Develop Baseline Information on Double-crested Cormorants Relative to Their Impacts on Survival of Salmonid Smolts in the Columbia River Estuary

Permitted Activity: low altitude flights at no lower than 700 feet above ground/water level altitude in fixed wing aircraft in the overflight restricted zone within OCNMS to census double-crested cormorants and other nesting seabirds

Project Location: between the Copalis River and Point of the Arches
Permit Duration: A two month period in June and July 2013.

LEARN ABOUT YOUR SANCTUARY / NATURAL HISTORY

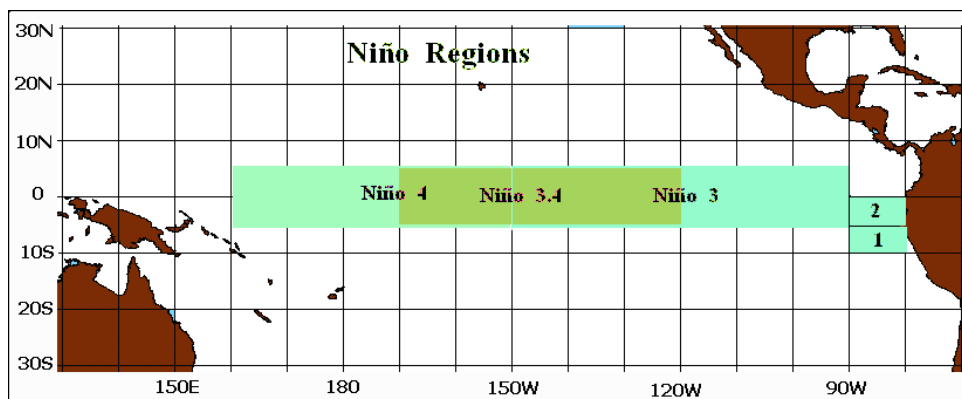
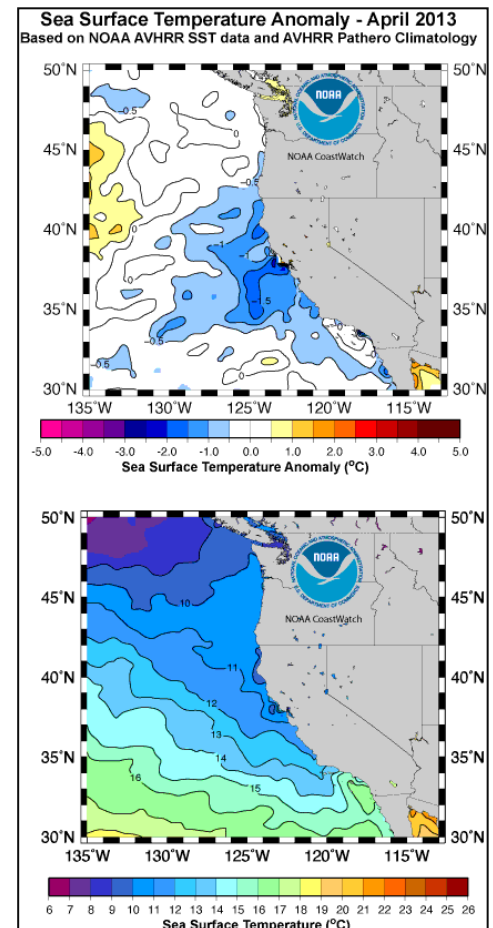
New information about resources in the sanctuary is always emerging. This section of the office report is reserved for sharing brief descriptions of recent studies, observations, findings, reports, forecasts related to the sanctuary.

The NOAA National Weather Service - Climate Prediction Center released its *El Niño/Southern Oscillation (ENSO) Diagnostic Discussion* on May 9, 2013, stating that an ENSO-neutral condition is favored into the late Northern Hemisphere summer 2013. This prediction is based on numerical models of Sea Surface Temperature (SST) from a geographic area known as *Niño 3.4* which stretches along the equator from 170°W to 120°W longitude and from 5°N to 5°S latitude. Since 1960, scientists have linked the SST from South America to both warming and cooling (*El Niño/ La Niña*) conditions in the Northern Pacific and across North America.

A synopsis of the Diagnostic Discussion indicated that there were several measurements that – when taken together - support the probability of average conditions across the Northern Pacific:

- Niño indices of Sea Surface Temperature were near zero throughout April. Warming in these regions typically indicates a developing El Niño.
- The oceanic heat content (average temperature in the upper 300m of the ocean) remained near-average, reflecting near-average subsurface temperature.
- Low-level easterly winds were enhanced and anomalous upper-level westerly winds prevailed across the equatorial Pacific.
- Tropical convection was enhanced over the western pacific and suppressed over the central Pacific.

Confidence in the ENSO-neutral forecast is low for the latter half of the year because these models were created using January-April 2013 data. Individual El Niño/ La Niña episodes tend to develop between the months of April and June, after the late-spring forecasts have been made. By June 2013, a more robust prediction can be made.



REGIONAL / NATIONAL ONMS NEWS

National Ocean Service (NOS) Celebrated National Travel and Tourism Week

To promote National Travel and Tourism Week (May 4-12, 2013), a number of National Ocean Service (NOS) programs, including National Marine Sanctuaries, highlighted how they support one of the largest sectors of the U.S. economy. Our national marine sanctuaries protect valuable coastal resources while still allowing people to visit and appreciate these tourist destinations. These special places provide an opportunity for people to connect with rich natural and cultural treasures along our coasts. Each site is unique and provides a wide variety of outdoor recreational activities, as well as educational visitor centers, for people to enjoy. The travel and tourism industry in the U.S. supports more than 5 million jobs, with 2 million of those tied directly to the resources of the oceans and Great Lakes. Across all national marine sanctuaries, about \$4 billion is generated annual in local coastal communities, an economic benefit for our nation.



Proposed Northern Boundary Expansion of CBNMS/GFNMS presented to Pacific Fishery Management Council

Superintendents Maria Brown of Gulf of Farallones National Marine Sanctuary (GFNMS), Dan Howard of Cordell Bank National Marine Sanctuary (CBNMS) and Policy Coordinator Lisa Wooninck (WCRO) presented to the Pacific Fishery Management Council (PFMC) and its advisory bodies NOAA's proposal to extend the boundaries of GFNMS and CBNMS. Although the public comment period for determining the scope of issues to be addressed in the DEIS of the proposed expansion closed on March 1, 2013, ONMS will consider any new and significant issues for analysis if submitted by PFMC. Sanctuary presentations and discussions focused on the process to consider boundary expansion, scope of received comments, the positive relationship CBNMS and GFNMS have with their local fishing communities and how these two sanctuaries currently do not regulate fishing. Nor are there any plans to regulate fishing within the proposed expansion area. Given the pervasive fear that these sanctuaries will one day seek authority to regulate fishing, some comments from Council members and advisory bodies were actually positive and addressed how sanctuaries can complement fisheries management through ecosystem science and habitat protection. PFMC directed their staff to send a comment letter to sanctuaries compiling the comments raised at the meeting. For more information about PFMC discussions contact lisa.wooninck@noaa.gov.

Unmanned Aircraft System Launched from NOAA Ship



NOAA recently operated and recovered a Puma Unmanned Aircraft System (UAS) aboard the NOAA ship *Nancy Foster*. This was the first NOAA operated UAS from a while hull NOAA ship. In this mission, a NOAA team developed Standard Operation Procedures for safe, efficient, and effective operations; tested the procedures to ensure they were appropriate; conducted flights to locate, identify, and track targets (such as a life-sized mock sea turtle); and introduced the system to potential future users. Five total flights were conducted. In the future, NOAA researchers hope to use the Puma to detect marine debris, improve emergency response, and enhance research and enforcement operations within national marine sanctuaries.

Since the NOAA Puma is operated by remote pilots, it is uniquely suited to collect data in dangerous or remote areas of the ocean. This data may be used in a variety of applications ultimately leading to improved climate and weather predictions and management of marine resources.

First Joint Research Expedition under Shared Research Agenda Completed

Last month, scientists from the British Indian Ocean Territory (BIOT) marine research and Papahānaumokuākea Marine National Monument (PMNM) returned from a 15-day research expedition to the Chagos Archipelago in the Indian Ocean aboard the BIOT patrol vessel *Pacific Marlin*. Scientists from other institutions – including the Chagos Conservation Trust, the University of Warwick, the University of Oxford, Bangor University, James Cook University, and the California Academy of Sciences – also participated. Activities conducted include long-term monitoring of coral reef health and seabird populations, monitoring of fish and shark assemblages, studies of coral reef biodiversity, and research on genetic connectivity. PMNM Research Specialist Dr. Daniel Wagner collected algae and sponge samples for taxonomic studies, as well as fish samples for research on genetic connectivity across large geographic scales. These two efforts are part of a larger research initiative under Big Ocean: A Network of the World's Large-Scale Marine Managed Areas. Scientists and managers from BIOT and PMNM were instrumental in the development and publication earlier this year of Big Ocean's shared

research agenda; the expedition to Chagos was the first on-the-ground project under that plan. In particular, the taxonomic and biogeographic studies of the collected samples fall under two of the three main themes of the shared research agenda: biological and ecological characterization, and connectivity (the third, monitoring of temporal trends, will be part of future research efforts). In addition to the inherent scientific value of these studies, the collaboration of BIOT and PMNM in this expedition to Chagos served to strengthen ties between these two large-scale MPAs, as well as with other Big Ocean partners. For more information, contact Daniel.Wagner@noaa.gov.

NEWS COVERAGE

Removal of Japanese Dock on Olympic Coast Completed

A 185-ton dock that washed out to sea during the March 2011 tsunami in Japan has now been removed from the Olympic Coast. NOAA contracted with The Undersea Company to remove the dock from the remote wilderness coast starting on March 17, 2013. The removal effort was supported by many state and federal agencies.

<http://marinedebris.noaa.gov/tsunamidebris/releases.html>

Tsunami Dock Being Dismantled in Washington State

A dock set adrift by the massive tsunami in Japan two years ago is in the process of being dismantled. The dock broke loose during the tsunami and traveled across the Pacific Ocean, where it was deposited on a WA state beach and discovered on Dec. 18, 2012 in a remote section of the Olympic National Park by U.S. Coast Guard helicopter. The area was initially impossible to reach because of high seas.

<http://www.inquisitr.com/585120/tsunami-dock-being-dismantled-in-washington-state/>

First Whale Trail Sign Dedicated at Kalaloch Lodge

A partnership among the Whale Trail, Olympic Coast National Marine Sanctuary and Olympic National Park resulted in the installation of a Whale Trail sign at Kalaloch Lodge. The sign helps inform visitors of the marine mammals in our waters and reminds us how we are connected to our seascape.

<http://www.ptleader.com/main.asp?SectionID=36&SubSectionID=55&ArticleID=33336>

Learning About Whales Getting Easier at Olympic National Park

A Whale Trail sign will be dedicated at Kalaloch Lodge during a ceremony featuring Jefferson County Commissioner Phil Johnson, and representatives from Olympic Coast National Marine Sanctuary, Olympic National Park and The Whale Trail.

<http://www.nationalparkstraveler.com/2013/04/learning-about-whales-getting-little-easier-olympic-national-park23012>

Olympic Coast Sanctuary Report is First Step in Addressing Effects of Climate Change

A new report on the potential effects of climate change on NOAA's Olympic Coast National Marine Sanctuary uses existing observations and science-based expectations to identify how climate change could affect habitats, plants and animals within the sanctuary and adjacent coastal areas.

<http://environmentalresearchweb.org/cws/article/yournews/53146>

Report Eyes Pacific Northwest Climate Change Threats

A recent report, *Climate Change and the Olympic Coast National Marine Sanctuary: Interpreting Potential Futures*, will be used by OCNMS managers to prepare the resources they steward for the coming impacts of climate change, including increases in sea level; extreme weather events such as winds, waves and storms; and coastal erosion.

<http://summitcountyvoice.com/2013/04/20/report-eyes-pacific-northwest-climate-change-threats/>

New \$12 Million Marine Center Envisioned for Port Angeles

The city of Port Angeles, The Feiro Marine Life Center (FMLC) and Olympic Coast National Marine Sanctuary (OCNMS) have released a feasibility study for a shared facility on the new waterfront area. The study calls for a 4,500 square foot exhibit area, wet and dry classrooms and marine laboratories, a dive room, a conference center and offices for administrators of both FMLC and OCNMS. The shared facility could arise in the next five years.

<http://www.peninsuladailynews.com/article/20130506/NEWS/305069993/new-12-million-marine-center-envisioned-for-port-angeles>

Wildlife Sanctuaries Along Coasts and Sea Level Rise

A new report on the potential effects of climate change on NOAA's Olympic Coast National Marine Sanctuary uses existing observations and science-based expectations to identify how climate change could affect habitats, plants and animals within the sanctuary and adjacent coastal areas. http://www.enn.com/environmental_policy/article/45877

WEB SITE (<http://olympiccoast.noaa.gov/>)

Follow the OCNMS on Facebook!

<http://www.facebook.com/#!/usolympiccoastgov>

Please take a few moments to peruse the site. Your feedback is greatly appreciated.

*Comments and suggestions can be sent to
Jacqueline.Laverdure@noaa.gov.*

FUN, OCEAN-RELATED WEB SITES

National Oceanic & Atmospheric Administration

<http://www.noaa.gov/>

National Ocean Service

<http://www.nos.noaa.gov/>

Office of National Marine Sanctuaries

<http://www.sanctuaries.nos.noaa.gov/>

NOAA Marine Debris Program

<http://marinedebris.noaa.gov/>

NOAA Online Media Library

<http://sanctuaries.noaa.gov/photos>

Encyclopedia of National Marine Sanctuaries

<http://www8.nos.noaa.gov/onms/park/>

NOAA Ocean Explorer

<http://oceanexplorer.noaa.gov/>

National Data Buoy Center

<http://www.ndbc.noaa.gov/rmd.shtml>

Washington's Ocean Resources

<http://www.ecy.wa.gov/programs/sea/ocean/index.html>

CoastWatch – West Coast Regional Node

<http://coastwatch.pfel.noaa.gov/>

Northwest Association of Networked Ocean Observing Systems

<http://www.nanoos.org/>

NOAA's Pacific Marine Environmental Laboratory

<http://www.pmel.noaa.gov/>



Learn More About Your Sanctuary

The Sanctuary Office Report is produced bi-monthly by the Olympic Coast National Marine Sanctuary in conjunction with Sanctuary Advisory Council meetings. To learn more about the Sanctuary please visit our web site at: <http://www.olympiccoast.noaa.gov>.

To learn more about the Sanctuary Advisory Council please visit:
http://olympiccoast.noaa.gov/involved/sac/sac_welcome.html

The Office of National Marine Sanctuaries

The Olympic Coast National Marine Sanctuary is one of 14 marine protected areas in the National Marine Sanctuary System encompassing more than 150,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. Visit the ONMS web site at: <http://www.sanctuaries.nos.noaa.gov/>

Get involved!

To learn how to get involved in the Sanctuary visit:
<http://olympiccoast.noaa.gov/involved/welcome.html>

OCNMS Staff

Carol Bernthal– Superintendent

George Galasso– Deputy Superintendent for Policy & Programs

Kevin Grant– Deputy Superintendent for Operations & Admin.

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